

EPISODE REPORT FORM*(See instructions on reverse)*

The District is available to receive your report

M-F 8:30 am - 5:00 pm telephone (415) 749-4979. After hours for breakdowns only telephone (415) 749-4666

FAX (415) 928-0338

TYPE (Check one box; report only one type on a form; use a separate form for each episode)

<input checked="" type="checkbox"/> Breakdown	<input type="checkbox"/> Excess	<input type="checkbox"/> Inoperative Monitor	<input type="checkbox"/> PRV
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SITE

Company: Valero Benicia Refinery Plant #: B2626 or GDF #: _____
Location: 3400 East Second Street
City: Benicia State: CA Zip Code: 94510-1097

EQUIPMENT

Sources:	S5-FCCU Regenerator, R-702; S6-Coker Burner, R-902; S16-Acid Gas Flare, ST-2101AG; S220-Hot Oil Furnace, F-4460; S19-North Flare, ST-2103; S1006-Crude Distillation (Pipestill); S37-Waste Heat Boiler, SG-702
Abatement Devices:	
Emission Points:	P69-FCCU/CKR Dumpstack; P1059-FGS Stack ST-5601

OCCURRENCE

Start Date: 5/5/2017 Time: 6:45 AM Reported Date: 5/8/2017 Time: 11:55 AM
Clear Date: 5/18/2017 Time: 1:26 PM Reported By: Iren Suhami
Received By: _____ Phone: (707) 745-7635

Problem: Sudden, immediate and total loss of PG&E 230 kV power resulted in the immediate and unplanned shutdown of the entire refinery. This resulted in flaring until the refinery was shutdown safely. While flaring, opacity limits were exceeded at both the south and north flares. Also, while the FCC and Coker units were being shutdown, a breakthrough in the two water seal compartments of the coker and FCCU dump stack occurred. In addition, during this event, 2 atmospheric safety valves (SV-106A/B) on the crude unit lifted.

AMENDED ON May 9, 2017: On May 8, 2017 at 3:30PM, some carry-over was emitted from the Flue Gas Scrubber Stack. This happened during the re-inventory of catalyst to the FCCU unit. The emissions were observed by the BAAQMD inspector, who then issued an NOV (Notice of Violation) for the excess visible emissions. The emissions from the flue gas scrubber have since ceased.

AMENDED ON May 9, 2017: The AGF pilot went off between May 5 4:45pm and May 7, 1pm. Reg 12-11-503 requires a continuous pilot.

AMENDED ON May 15, 2017:

-FCCU (P-69) vent opacity exceedance: While the FCC and Coker units were being shutdown, a breakthrough in the two water seal compartments of the Coker and FCCU dump stack occurred. This occurred from 5/5/17 07:05-08:05, 5/7/17 01:32-01:57, and 5/14/17 22:06 – 5/15/17 04:40.

-FGS (P-1059) opacity exceedance: The unplanned shutdown of the FCC and Coker resulted in a parametric monitoring indication of excess opacity per the AMP under which the FGS is operating. The "excess" occurs when the circulation pressure drops below 96 psig or the filter pressure drop is below 8 inches of H2O. The AMP conditions were not met for 189 minutes during the clock hours of 5/5/17 06:00-10:00. Additionally, the Federal Standard was exceeded on 5/5/17 during the following clock hours as follows: 4 6-minute periods from 06:00-07:00, 10 6-minute periods from 07:00-08:00, 10 6-minute periods from 08:00-09:00, and 8 6-minute periods from 09:00-10:00.

-FGS (P-1059): The 1-day NOx 115 ppm limit was exceeded from 5/11/17 00:00 to 5/12/17 00:00 with an average concentration during this period of 125 ppm. The 1-hr CO 500 ppm limit was exceeded from 5/5/17 07:00 to 5/6/17 07:00 with an average concentration during this period of 10,067 ppm. The 1-day CO 100 ppm

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limit was exceeded from 5/6/17 00:00 and is currently ongoing with an average concentration during this period of 1,912 ppm. The 7-day SO₂ 42.8 ppm limit was exceeded from 5/9/17 00:00 to 5/14/17 00:00 with an average concentration during this period of 59.5 ppm.

-AGF inop monitor: The AGF pilot did not have verification between 5/5/17 06:40 to 5/7/17 12:49. Reg 12-11-503 requires a continuous verification of a pilot. This is a correction to the May 9, 2017 amendment report of a loss of continuous pilot.

-NF inop monitor: The North Flare pilot did not have continuous verification of a flame between 5/5/17 06:41 – ongoing. Operations is making periodic visual verifications that a flame is present pending repair or replacement of the continuous flame monitor.

-F-4460 (S-220): The 3-hr NO_x 10 ppm limit was exceeded from 5/13/17 15:00 to 18:00 with an average concentration during this period of 12 ppm.

-LPFG H₂S: The 3-hr H₂S 162 ppm limit was exceeded from 5/5/17 12:00 to 13:00 with an average concentration during this period of 165 ppm.

-ATM SV: On 5/15/17 5 atmospheric safety valves (SV-903A/B/C/D/E) on the coker unit lifted.

AMENDED on 5/23/17:

- ID 07D26 amended to having excess CO emissions from 5/5/17 08:00-09:00 783 ppm avg and from 5/6/17 14:00-17:00 1,167 ppm avg.

- ID 07D27 amended to having excess CO emissions from 5/7/17 00:00 to 5/17/17 23:59 647 ppm avg.; Amend to include end time: 5/17/17 23:59

- ID 07D25 amended to "WITHDRAWN". Hours of indicated excess were within the Shutdown/Startup/Bypass allowance per Permit Condition 20820 Part 65.

- ID 07D28 amended to having excess SO₂ emissions from 5/10/17 00:00 to 5/13/17 23:59, 46.2 ppm avg.

- ID 07D30 amended to include end time as 5/18/17 13:26.

- ID 07D24 amended to reflect correct averaging period of 394 minutes.

- ID XXDXX amended for SG-702 NO_x. The 3-hr 9-ppm limit was exceeded on 5/8/17 from 14:00-19:00 with an average of 12 ppm.

-FCCU (P-69) vent opacity exceedance: Correction on the time of the dumpstack on the 5/5/17 event should have been from 07:05-08:25.

- ID 07D20 - amended to include end time as 5/5/17 10:00.

- ID 07D21 - there were 2 PRV release events (1) ATM SV: On 5/5/17 atmospheric safety valves (SV-106A/B) on the crude unit lifted for 2 minutes from 6:53hrs to 6:55hrs; (2) ATM SV: On 5/15/17 5 atmospheric safety valves (SV-903A/B/C/D/E) on the coker unit lifted approximately 30 seconds.

- ID 07D18: amended to include end time as 5/5/17 15:32 hrs.

- ID 07D19: amended to include end time as 5/5/17 15:32 hrs.

AMENDED on 6/1/17:

07D10 - replaced by 07D17

07D11 - replaced by 07D46

07D17 - Start Time 5/5/17 06:45 am / End Time 5/18/17 1:26pm 13 days 6.68 hours entire breakdown event.

07D18 - Page 2 Typo correction Monitor Description: B2626 / None (not A0901)

Start Time 5/5/17 07:05 am / End Time 5/5/17 3:33 pm,

07D19 - Page 2 Typo correction Monitor Description: B2626 / None (not A0901)

Start Time 5/5/17 07:05 am / End Time 5/5/17 3:27 pm

07D20 - Start Time 5/5/17 07:05 am / End Time 5/5/17 8:25 am

07D21 - Start Time 5/5/2017 6:53:00 AM / End Time 5/5/2017 6:55:00 AM

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07D22 - Start Time 5/8/2017 3:30:00 PM / End Time 5/8/2017 8:00:00 PM

07D23 - Start Time 5/7/2017 1:32:00 AM / End Time 5/7/2017 1:57:00 AM

07D24 - Start Time 5/14/2017 10:06:00 PM / End Time 5/15/2017 4:40:00 AM

07D25 - WITHDRAWN - NO XS, indicated hours of excess were within SD/SU/Bypass allowance per Condition 20820 Part 65. No Excess Emissions.

07D26 - Start Time-End Times:

XS from 5/5/17 08:00 - 09:00 783 ppm avg,

XS from 5/6/17 14:00 - 17:00 1167 ppm avg

07D27 - Start Time 5/7/2017 12:00:00 AM / End Time 5/17/2017 11:59:00 PM

07D28 - Start Time 5/10/2017 12:00:00 AM / End Time 5/13/2017 11:59:00 PM

07D29 - Start Time 5/5/2017 6:40:00 AM / End Time 5/7/2017 12:49:00 PM

07D30 - Start Time 5/5/2017 6:41:00 AM / End Time 5/18/2017 1:26:00 PM

07D31 - Start Time 5/13/2017 3:00:00 PM / End Time 5/13/2017 5:00:00 PM

07D32 - Start Time 5/5/2017 12:00:00 PM / End Time 5/5/2017 1:00:00 PM

07D38 - Start Time 5/15/2017 6:51:00 AM / End Time 5/15/2017 6:51:00 AM ~30seconds

07D46 - Start Time 5/5/2017 7:05:00 AM / End Time 5/5/2017 8:25:00 AM

07D47 - Start Time 5/8/2017 2:00:00 PM / End Time 5/8/2017 7:00:00 PM

07D48 - Start Time 5/5/2017 6:00:00 AM / End Time 5/5/2017 10:00:00 AM

07D49 - Start Time 5/5/2017 6:00:00 AM / End Time 5/5/2017 10:00:00 AM

AMENDED on 7/12/17:

07D23 - WITHDRAWN - NO XS, While a breakthrough did occur, there was no opacity excess because there was no CO gas present (and therefore no PM present) and only low air flow. In an abundance of caution, Valero reported this event as a deviation (BAAQMD ID 07D23); however, upon further review of the data this event was not an excess and Valero rescinds the deviation.

07D24 - WITHDRAWN - NO XS, While a breakthrough did occur, there was no opacity excess because there was no CO gas present (and therefore no PM present) and there was no/low air flow. In an abundance of caution, Valero reported this event as a deviation (BAAQMD ID 07D24); however, upon further review of the data this event was not an excess and Valero rescinds the deviation.

AMENDED on 7/27/17:

250 ppm SO₂ 1-hr limit was exceeded intermittently at the Main Stack from 5/7/17 16:00- 5/12/17 12:00 with an average of 936 ppm.

07D26: This excess is being withdrawn. Compliance with this limit is determined via the AMP for CO monitoring approved by EPA January 10, 2007 per 40 CFR Part 63.1565(b)(1) (ii) and Condition 24239 Part 7.

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BREAKDOWN (if box B is checked)

Related Excess Emissions? ☐ Monitor Excess ☒ Other Excess

Emission Description: Opacity excess from flares and dump stack

EXCESS EMISSION OR INOPERATIVE MONITOR (E or I is checked)

Monitor Description: B2626 / North and AGFlares/Pilot Monitoring

Type: ☐ CEM ☐ GLM ☐ Fuel Gas ☐ Parametric

Parameter: ☐ NOx ☐ SOx ☐ CO ☐ H2S ☐ TRS ☐ NH3 ☐ O2 ☐ CO2 ☐ H2O ☐ Opacity/LTA ☐ Lead

☐ Gauge Pressure ☐ Hydrocarbon Breakthrough (VOC) ☐ Temperatur ☐ pH

☐ Wind Speed ☐ Wind Direction ☐ Flow ☐ Steam ☐ Other: _____

EXCESS EMISSION (E is checked)

Units shall be the same as the District Regulation Standard or Permit Condition.

Indicated Excess: _____ ☐ ppm vol ☐ ppb vol ☐ min/hr ☐ inches H2O ☐ psig ☐ mm/Hg ☐ %VOC

Allowable Limit: _____

Averaging Time: _____ minutes Related Breakdown ID#: _____ for District use only